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BEDIKIAN et al.(10) **Pub. No.: US 2017/0017306 A1**(43) **Pub. Date: Jan. 19, 2017**(54) **DYNAMIC, FREE-SPACE USER INTERACTIONS FOR MACHINE CONTROL**(71) Applicant: **Leap Motion, Inc.**, San Francisco, CA (US)(72) Inventors: **Raffi BEDIKIAN**, San Francisco, CA (US); **Jonathan MARSDEN**, San Mateo, CA (US); **Keith MERTENS**, Oakland, CA (US); **David Samuel HOLZ**, San Francisco, CA (US); **Maxwell SILLS**, San Francisco, CA (US); **Matias PEREZ**, San Francisco, CA (US); **Gabriel A. HARE**, Daly City, CA (US); **Ryan Christopher JULIAN**, Berkeley, CA (US)(73) Assignee: **Leap Motion, Inc.**, San Francisco, CA (US)(21) Appl. No.: **15/279,363**(22) Filed: **Sep. 28, 2016****Related U.S. Application Data**

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(57) **ABSTRACT**

Embodiments of display control based on dynamic user interactions generally include capturing a plurality of temporally sequential images of the user, or a body part or other control object manipulated by the user, and computationally analyzing the images to recognize a gesture performed by the user. In some embodiments, a scale indicative of an actual gesture distance traversed in performance of the gesture is identified, and a movement or action is displayed on the device based, at least in part, on a ratio between the identified scale and the scale of the displayed movement. In some embodiments, a degree of completion of the recognized gesture is determined, and the display contents are modified in accordance therewith. In some embodiments, a dominant gesture is computationally determined from among a plurality of user gestures, and an action displayed on the device is based on the dominant gesture.

